

Dec. 2, 2004 1:36PM OP Fay Sharpe POSITION FOR THE FORMATION No. 25062F, P. 6D
**ULTRAVIOLET-ABSORBING AND HEAT-REFLECTING GLASS MADE BY USING THE
SAME**
EPA 99-02 0890556 NDN-050-0060-6308-1

INVENTOR(S)- NAKAMURA, K. Nippon Sheet Gl. Co., Ltd. 5-11, Doshomachi 3-chome, Chuo-ku Osaka-shi
Osaka-fu 541 JP
INVENTOR(S)- MAEDA, Koichi Nippon Sheet Gl. Co., Ltd. 5-11, Doshomachi 3-chome, Chuo-ku Osaka-shi
Osaka-fu 541 JP

APPLICANT(S)- Nippon Sheet Glass Co., Ltd. (619688) 5-11, Doshomachi 3-chome, Chuo-ku Osaka-
shi, Osaka-fu 541 JP **DESG. COUNTRIES**- BE; DE; FR; GB; IT
PATENT APPLICATION NUMBER- 97950387
DATE FILED- 1997-12-25
PUBLICATION NUMBER- 00890556/EP A1
PUBLICATION DATE- 1999-01-13
PATENT PRIORITY INFO- JP, 344799/96, 1996-12-25
ATTORNEY, AGENT, OR FIRM- Allen, Philippa Margaret et al, (73171), Markgraaf Patents Limited The
Crescent 54 Blossom Street, York YO24 1AP, GB
INTERNATIONAL PATENT CLASS- C03C01723; C03C01727
PCT APP. NO.- 9704812/JP/PCT
PCT PUB. NO.- 98029352/WO

PCT PUB. DATE- 1998-07-09
PUBLICATION- 1999-01-13, A1, Published application with search report
FILING LANGUAGE- Japanese
PROCEDURE LANGUAGE- English
LANGUAGE- English

The present invention relates to an optical thin film containing titanium oxide, cerium oxide and bismuth oxide, wherein the content ratio of the titanium oxide, cerium oxide, and bismuth oxide is within the area expressed by four-cornered shape ABCD consisting of A (4,1,95), B (98,1,1), C (20,79,1), and D (3,14,83) in term of coordinate points (TiOsub2 mol percent, CeOsub2 mol percent, and Bisub2Osub3 mol percent) of the mol ratio when being converted to oxides of TiOsub2, CeOsub2, and Bisub2Osub3. Furthermore, with the invention, a comparatively high refractive index film layer and a comparatively low refractive index film layer are alternately laminated at least three layers on a transparent glass substrate, at least two layers of said three layers are high refractive index films, and at least one layer of said high refractive index films is said optical thin film. Therefore, the invention provides an optical thin film having a high refractive index to increase a thermic ray reflection selecting performance and having ultraviolet ray absorption performance, and provides ultraviolet ray absorbing and thermic ray reflecting glass using the same.